WHAT IS CLAIMED IS:

1. A transmitter system for wireless communication with a remote receiver, comprising:

a transmitter circuit, said transmitter circuit including a resonant network oscillating at a resonant frequency to generate signals for transmission to the remote receiver,

current sensing means coupled to said transmitter circuit for sensing current consumed by the same, and

a controller generating a drive signal and outputting said drive signal to said transmitter circuit to control said resonance frequency thereof, said controller being coupled to said current sensing means to monitor said sensed current and changing said drive signal to adjust said resonance frequency of said resonant network once said sensed current exceeds a predetermined current value to minimize said sensed current consumed by said transmitter circuit.

2. The transmitter system of Claim 1, wherein said current sensing means includes an Analog-to-Digital converter.

3. The transmitter system of Claim 1, wherein said controller includes a microcontroller.

4. The transmitter system of Claim 1, wherein said transmitter circuit further includes first and second pairs of switches forming an H-bridge coupled to said resonant network, said drive signal generated by said controller being fed to said switches of said H-bridge to control switching thereof, thereby controlling said resonant frequency of said resonant network.

5. The transmitter system of Claim 4, wherein said drive signal includes first pulses and second pulses generated at a time interval therebetween, said first pulses being fed to said first pair of switches, and said second pulses being fed to said second pair of switches.

6. The transmitter system of Claim 5, wherein said interval between said first and second pulses corresponds to a natural resonance frequency of said resonant network when said sensed current remains below said predetermined current value.

7. The transmitter system of Claim 6, wherein upon said sensed current exceeding said predetermined current value, said controller changes said interval between said first and second pulses to deviate said resonant frequency of said resonant network from said natural resonant frequency thereof to decrease said sensed current to the value below said predetermined current value.

8. The transmitter system of Claim 7, wherein said interval between said first and second pulses is equal to sub-multiples of said natural resonant frequency.

9. The transmitter system of Claim 1, wherein said remote receiver includes a medical device implanted in a human body, and wherein said resonant network includes a LC tank and the human body capacitance.

10. The transmitter system of Claim 1, further comprising a battery supplying current to said transmitter circuit.

11. The transmitter system of Claim 1, further comprising:

a power supply block supplying power to said transmitter circuit, said power supply block comprising:

a current limit switching circuit coupled to the serial port of a host computer, said current limit switching circuit includes a plurality of limiting resistors,

a storage capacitor coupled between an output of said current limit switching circuit and said transmitter circuit, said storage capacitor being charged with charging current supplied from the host computer through said current limit switching circuit, and said storage capacitor supplying discharging current therefrom to said transmitter circuit, and

a feedback circuit coupled between said storage capacitor and said current limit switching circuit, said feedback circuit including:

an analog-to-digital converter coupled to said storage capacitor to monitor the voltage across said storage capacitor, and

a microprocessor coupled between the output of said analog-to-digital converter and said current limit switching circuit, said microprocessor comparing said monitored voltage across said storage capacitor with a

predetermined voltage limit value, and switching said current limit switching circuit to an appropriate limiting resistor therein once said voltage limit value has been reached.

12. The transmitter system of Claim 11, wherein said analog-to-digital converter further monitors charging current supplied to said storage capacitor during charging period, and wherein said microprocessor switches said current limit switching circuit to a respective limiting resistor once said charging current falls below a predetermined level thereof to keep said charging current at said predetermined level thereof.

13. The transmitter system of Claim 11, wherein said microprocessor establishes a switching hysteresis to prevent switch chatter at the crossover points.

14. A transmitter system for wireless communication with a remote receiver, comprising:

a transmitter circuit generating signals and transmitting the generated signals to the remote receiver; and

a power supply block coupled to said transmitter circuit to supply power thereto,

said power supply block comprising:

a. a current limit switching circuit coupled to a host computer to receive input power therefrom, said current limit switching circuit including a plurality of current limiting structures switchable to control charging current output from said current limit switching circuit at an output thereof,

b. a storage capacitor coupled to said output of said current limit switching circuit for being charged with said controlled charging current, and said storage capacitor being further coupled to said transmitter circuit to supply thereto a discharge current of said storage capacitor, and

c. a feed-back circuit coupled between said storage capacitor and said current limit switching circuit, said feed-back circuit being adapted to monitor said charging current supplied to said storage capacitor and to switch

said current limit switching circuit to a respective current limiting structure thereof to keep said charging current at a predetermined level thereof for the duration of the charging time.

15. The transmitter system of Claim 14, wherein said feed-back circuit is further adapted to monitor voltage impressed across said storage capacitor and to switch said current limit switching circuit to an appropriate current limiting structure thereof to stop charging once said voltage impressed across said storage capacitor has reached a predetermined level thereof.

16. The transmitter system of Claim 14, wherein said current limiting structures in said current limiting structures in said current limit switching circuit include a plurality of distinct resistors connected in parallel and a plurality of switches, each of said switches being associated with a respective one of said resistors, said feed-back circuit controlling the state of each of said switches to select a respective resistor for limiting said charging current.

17. The transmitter system of Claim 15, wherein said feed-back circuit includes an Analog-to-Digital converter coupled to said storage capacitor for reading said charging current and said voltage impressed across said storage capacitor, and a microprocessor coupled between the output of said Analog-to-Digital converter and said current limit switching circuit, said microprocessor including means for comparing digital data output at said Analog-to-Digital converter to the data corresponding to said predetermined level of said charging current and to said voltage impressed across said storage capacitor, respectively, and for selecting said respective current limiting structure based upon said comparison.

18. The transmitter system of Claim 17, wherein said microprocessor further includes means for establishing a predetermined delay between receiving the results of said comparison and actual switching of said current limit switching circuit to prevent switch chatter at crossover points.

19. The transmitter system of Claim 14, wherein said current limit switching circuit receives said input power from the serial port of the host computer.

20. The transmitter system of Claim 14, further comprising means for impeding supply of the charging current to said storage capacitor prior to substantially complete discharge state thereof.

21. The transmitter system of Claim 14, wherein said transmitter circuit includes a resonant network oscillating at a resonant frequency to generate signals for transmission to the remote receiver, and

wherein said transmitter system further comprises:

a. current sensing means coupled to said transmitter circuit for sensing current consumed by the same, and

b. a controller generating a drive signal to said transmitter circuit to control said resonance frequency thereof, said controller being coupled to said current sensing means to monitor said sensed current and changing said drive signal to adjust said resonance frequency of said transmitter circuit once said sensed current exceeds a predetermined current value to minimize said sensed current consumed by said transmitter circuit.

22. The transmitter system of Claim 21, wherein said current sensing means includes an Analog-to-Digital converter.

23. The transmitter system of Claim 21, wherein said controller includes a microcontroller.

24. The transmitter system of Claim 21, wherein said transmitter circuit further includes first and second pairs of switches forming an H-bridge coupled to said resonant network, said drive signal generated by said controller being fed to said switches of said H-bridge to control switching thereof, thereby controlling said resonant frequency of said transmitter circuit.

25. The transmitter system of Claim 24, wherein said drive signal includes first pulses and second pulses generated at a time interval, said first pulses being fed to said first pair of switches, and said second pulses being fed to said second pair of switches.

26. The transmitter system of Claim 25, wherein said interval between said first and second pulses corresponds to a natural resonance frequency of said resonant network when said sensed current remains below said predetermined current value.

27. The transmitter system of Claim 26, wherein upon said sensed current exceeds said predetermined current value, said controller changes said interval between said first and second pulses to deviate said resonant frequency of said transmitter circuit from said natural resonant frequency to decrease said sensed current to the value below said predetermined current value.

28. The transmitter system of Claim 21, wherein said interval between said first and second pulses is equal to sub-multiples of said natural resonant frequency.

29. The transmitter system of Claim 21, wherein said receiver includes a medical device implanted into a human body, and wherein said resonant network includes LC tank and the human body capacitance.